

Date: Wednesday, 07/01/2009 12:44:26 PM
 User: Julie Dawson

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	ENERGY ATTENUATING FLOOR PROVISION KIT	
Job Number :	44453	Part Number :	D350689023	
Estimate Number :	13705	Drawing Number :	DSI9419 REV.A	
P.O. Number :		Project Number :	N/A	
This Issue :	07/01/2009	Drawing Revision :	A	
Prsht Rev. :	NC	Material :	N/A	
First Issue :	/ /	Due Date :	26/01/2009	Qty: 2 Um: Each
Previous Run :		Type :	LARGE FAB ASSY	
Written By :				
Checked & Approved By :	JLD 09.01.09			
Comment :	Est Rev:A 08-12-23 new issue DD verified by: E			

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels per PPP D350-689-023 CHG001

2.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

3.0	D30251	Beam
-----	--------	------



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Beam

batch: B22566

SD

4.0	D30261	Channel
-----	--------	---------



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Channel

batch: B43291

slf

5.0	D30271	Clip
-----	--------	------



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Clip

batch: B22566

9/2/11

(2x)

slf

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 07/01/2009 12:44:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ENERGY ATTENUATING FLOOR PROVISION KIT

Job Number: 44453

Part Number: D350689023

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

D30273

Clip



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clip

batch: B22566

SD

7.0

D30275

Clip



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clip

batch: B22566

SD

8.0

D30277

Clip



Comment: Qty.: 4.0000 Each(s)/Unit Total : 8.0000 Each(s)

Clip

batch: B44566

B44566 (x2)

9/3/10

SD

9.0

D32341

Doubler



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Doubler

batch: 43629

B44165

SD

10.0

D32343

Doubler



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Doubler

batch: B43630

44166

9/2/11

SD

11.0

D3811041

Seat Track Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Seat Track Assembly

batch: B441697

9/3/10

SD

12.0

MS20426AD45

Rivet



Comment: Qty.: 14.0000 Each(s)/Unit Total : 28.0000 Each(s)

Rivet

batch: M4067

9/2/11

(94)

SD

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 07/01/2009 12:44:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ENERGY ATTENUATING FLOOR PROVISION KIT

Job Number: 44453

Part Number: D350689023

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

MS20470AD45

Rivet, Universal Head



Comment: Qty.: 34.0000 Each(s)/Unit Total : 68.0000 Each(s)

Rivet, Universal Head

batch: M109031

14.0

MS20470AD46

Rivet, Universal Head



Comment: Qty.: 18.0000 Each(s)/Unit Total : 36.0000 Each(s)

Rivet, Universal Head

batch: M109371

15.0

MS20470AD56

Rivet



Comment: Qty.: 32.0000 Each(s)/Unit Total : 64.0000 Each(s)

Rivet

batch: M9619

16.0

MS21042L3

Nut



Comment: Qty.: 9.0000 Each(s)/Unit Total : 18.0000 Each(s)

Nut

batch: M109798

17.0

MS24694S50

Screw



Comment: Qty.: 9.0000 Each(s)/Unit Total : 18.0000 Each(s)

Screw

batch: M110625

18.0

AN960JD10

Washer



Comment: Qty.: 9.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

batch: M110139

19.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 07/01/2009 12:44:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ENERGY ATTENUATING FLOOR PROVISION KIT

Job Number: 44453

Part Number: D350689023

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-689-023

Location: _____

PPP Rev: _____

Rev B

8809/03/11 (2)

21.0

QC21

FINAL INSPECTION/W/O RELEASE



09/03/12

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 09-03-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-689 REV. A
AND FLIGHT MANUAL SUPPLEMENT FMS-D350-689 REV. A
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D350-689 REV. 0
REF. CANADIAN STC: SH02-33
REF. FAA STC: SR01620NY

PURPOSE

The purpose of this DSI is to add the D350-689-021 Dual High Back Seat Installation, LH, the D350-689-023 Floor Provisions Kit and the D350-689-043 Dual High Back Seat Assembly to IIN-D350-689 Rev. A. The D350-689-021/-023 Kits are compatible with the Energy Attenuating Seat rails in later AS 350/355 model aircraft.

The DSI 9419-011 Kit includes the parts that are required to convert a D350-689-011 installation into a D350-689-021 installation.

PART LIST

-011	-021	-023	-043	P/N	DESCRIPTION
X				DSI 9419-011	ENERGY ATTENUATING CONVERSION KIT
	X			D350-689-021	DUAL HIGH BACK SEAT INSTALLATION, LH
	1	X		D350-689-023	ENERGY ATTENUATING FLOOR PROVISIONS KIT
	1		X	D350-689-043	DUAL HIGH BACK SEAT ASSEMBLY
			2	D3016-041	SEAT FRAME ASSEMBLY
			1	D3017-041	BACK FRAME ASSEMBLY
	1			D3018-1	SEAT CUSHION
	1			D3019-1	BACK CUSHION
			1	D3021-041	TUBE ASSEMBLY
			1	D3022-1	SEAT PAN
			1	D3023-1	BACK PANEL
			3	D3024-1	SPACER
		1		D3025-1	BEAM
		1		D3026-1	CHANNEL
		1		D3027-1	CLIP
		1		D3027-3	CLIP
		1		D3027-5	CLIP
		4		D3027-7	CLIP
			2	D3031-1	LOOP
1		1		D3234-1	DOUBLER
1		1		D3234-3	DOUBLER
2			2	D3808-041	SEAT RAIL ASSEMBLY
4			4	D3809-1	SLIDING BLOCK
1		1		D3811-041	SEAT TRACK ASSEMBLY

SHOP COPY
RETURN TO
ENGINEERING

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 44453

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: Aug. 19/2008
CERT. NO.: SH02-33
ISSUE NO.: 1

A	NEW ISSUE	RF	08.08.19
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9419	SHEET 1 OF 5
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	ENERGY ATTENUATING PROVISION KIT	NTS
DATE	08.08.19	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

-011	-021	-023	-043	P/N	DESCRIPTION
			3	AN3-12A	BOLT
14		14		MS20426AD4-5	RIVET
34		34		MS20470AD4-5	RIVET
18		18		MS20470AD4-6	RIVET
		32		MS20470AD5-6	RIVET
			40	MS20600AD4W2	RIVET
			6	MS20600AD4W3	RIVET
9		9	23	MS21042L3	NUT (or MS21042-3)
			4	MS24693-S272	SCREW
8			8	MS24694-S3	SCREW
9		9		MS24694-S50	SCREW
4			4	MS24694-S148	SCREW
			4	MS27039-1-17	SCREW
			12	MS27039-1-19	SCREW
			23	NAS1149D0332J	WASHER (or AN960JD10L)
9		9		NAS1149D0363J	WASHER (or AN960JD10)

PROCEDURE

1. Install the under floor structure as outlined in steps 1-18 of IIN-D350-689 Rev. A and DSI 9311 Rev. A as applicable, except do not install D3032-1 Spacers. Attach D3026-1 Channel to floor using (14) MS20426AD4 rivets. Ensure D3234-1/-3 Doublers are installed per DSI 9269 Rev. A.
2. Position the D3811-041 Seat Track Assy at LBL 27.33 as shown in Figure 1 to be in-line with the existing seat rails at LBL 8.98 and LBL 19.16.
3. Transfer the attachment holes from D3811-041 Seat Track Assy to aircraft floor (9 pls) using a $\varnothing 0.201$ (#7 drill). Deburr holes. Install D3811-041 using (9) MS24694-S50 screws, (9) NAS1149D0363J washers, and (9) MS21042L3 nuts as shown in Figure 1. Torque screws to 20 to 25 in-lbs (2.3 to 2.8 Nm).
4. If converting a -041 Seat Assembly to a -043 Seat Assembly, remove D3028-1 Studs, D3029-1 Springs, and D3030-1 Locks from the D350-689-041 Seat Assembly. Install (2) D3808-041 Seat Rails Assemblies as shown in Figure 1 Detail A using (4) MS24694-S148 Screws. Torque screws to 100 to 140 in-lbs (11.3 to 15.8 Nm). Install D3809-1 Sliding Blocks using (2) MS24694-S3 screws as shown in Figure 1 Detail A. Torque screws to 12 to 15 in-lbs (1.4 to 1.7 Nm).
5. Remove screws from back end of Seat Tracks at LBL 27.33 and LBL 8.98. Slide D350-689-043 Seat Assembly into both seat tracks and lock in desired position using D3810-1 Retractable Spring Plungers. Re-install screws on back of seat tracks per the Aircraft Maintenance Manual.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

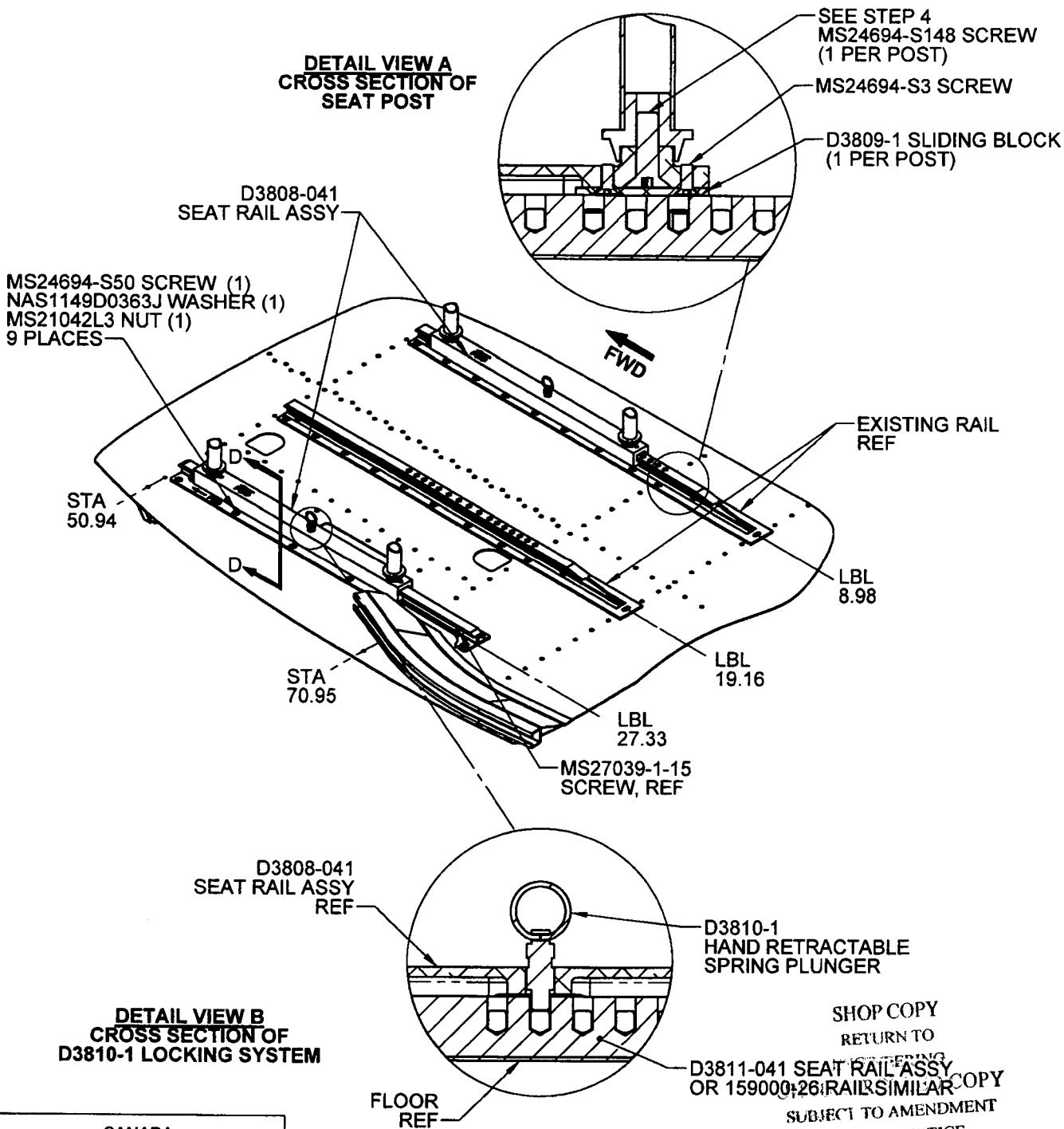
APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: Aug. 19/2008
CERT. NO.: SH02-33
ISSUE NO.: 1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 44453

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9419	SHEET 2 OF 5
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	ENERGY ATTENUATING PROVISION KIT	NTS
DATE	08.08.19	<small>COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



SHOP COPY
RETURN TO
DRAWING
COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 44453

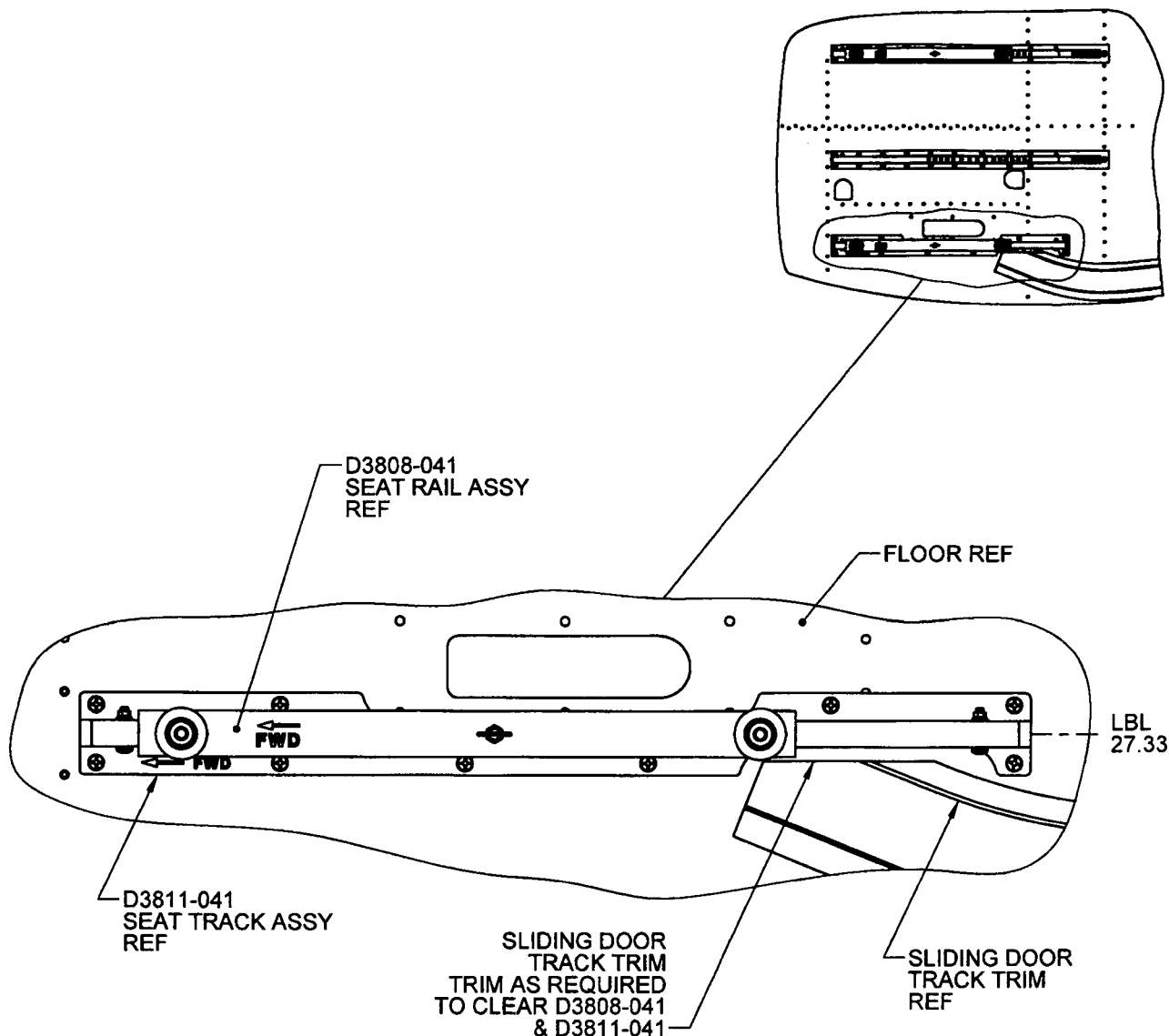
FIGURE 1 D350-689-021 INSTALLATION

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: Aug. 19/2008
CERT. NO.: SH02-33
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. DSI 9419	REV. A
MFG. APPR.	N/A	SHEET 3 OF 5	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	ENERGY ATTENUATING PROVISION KIT	
DATE	08.08.19	COPYRIGHT © 2008 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



**DETAIL VIEW C
SLIDING DOOR TRACK TRIM**

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *44453*

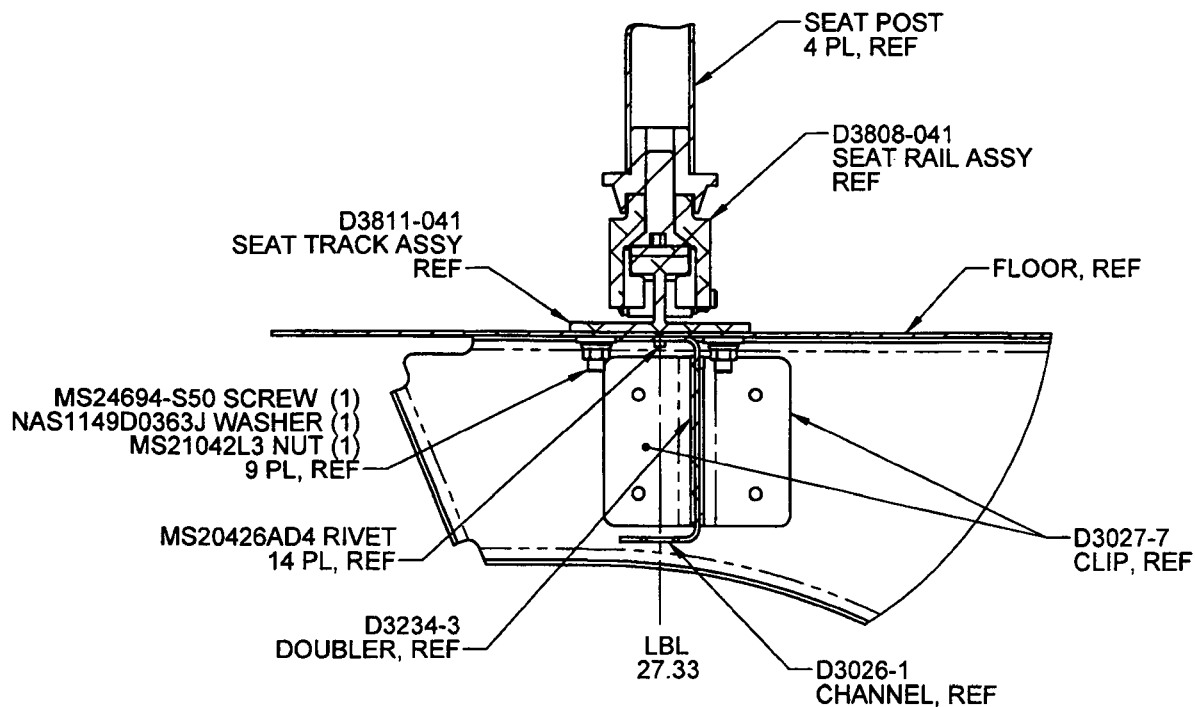
CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: Aug. 19/2008
CERT. NO.: SH02-33
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9419	SHEET 4 OF 5
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	ENERGY ATTENUATING PROVISION KIT	NTS
DATE	08.08.19	COPYRIGHT © 2008 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



CROSS SECTION D-D

WEIGHT AND BALANCE

The following is the net weight increase associated with the Kits.

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
DSI 9419-011 Energy Attenuating Conversion Kit	1.1 lb 0.50 kg	-18.2 in -0.46 m	-20 in-lb -0.2 m-kg	60.7 in 1.54 m	67 in-lb 0.77 m-kg
D350-689-021 Dual High Back Seat Installation, LH Fwd Position	28.6 lb 13.0 kg	-18.2 in -0.46 m	-521 in-lb -6.0 m-kg	60.7 in 1.54 m	1736 in-lb 20.0 m-kg
D350-689-021 Dual High Back Seat Installation, LH Aft Position	28.6 lb 13.0 kg	-18.2 in -0.46 m	-521 in-lb -6.0 m-kg	64.7 in 1.64 m	1850 in-lb 21.3 m-kg
D350-689-023 Energy Attenuating Floor Provisions Kit	2.5 lb 1.1 kg	-18.2 in -0.46 m	-46 in-lb -0.5 m-kg	62.2 in 1.58 m	156 in-lb 1.7 m-kg

REVISED LOADING CHART

With respect to the Loading Chart in FMS-D350-689, when the Dual High Back Seat has been installed in an aircraft with Energy Attenuating Seat rails per this DSI, the occupants are located at STA 61.02 when the seat is in the Fwd position and at STA 65.02 when the seat is in the Aft position.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: Aug. 19/2008
CERT. NO.: SH02-33
ISSUE NO.: 1

ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE

[Signature]
NY 4453

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9419	SHEET 5 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	ENERGY ATTENUATING PROVISION KIT	NTS
DATE	08.08.19	COPYRIGHT © 2008 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	